

• COLORADO RIVER • AQUEDUCT NEWS

THE METROPOLITAN WATER DISTRICT



OF SOUTHERN CALIFORNIA

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NUMBER 4



Preparing to drink a toast (in water, of course) to the Colorado River Aqueduct are, left to right, District Board Chairman Joseph Jensen, General Manager and Chief Engineer Robert B. Diemer and Louis R. Howson, National President of the American Society of Civil Engineers. The occasion was a luncheon meeting at the Huntington Sheraton Hotel in Pasadena on April 15 when the engineering society presented District officials with a bronze plaque naming the Aqueduct as one of the "Seven Civil Engineering Wonders of the United States."

Colorado River Aqueduct Honored by Engineering Society as one of "Seven Engineering Wonders of U. S."

The Colorado River Aqueduct of the Metropolitan Water District was honored by the American Society of Civil Engineers as one of the "Seven Civil Engineering Wonders of the United States" at a luncheon meeting in the Huntington Sheraton Hotel in Pasadena on April 15.

Louis R. Howson, National President of the Society, presented District officials with a large bronze plaque commemorating the selection. The plaque was received and acknowledged by District General Manager and Chief Engineer Robert B. Diemer and Board Chairman Joseph Jensen.

Nearly 300 persons attended the award luncheon, including civic leaders

and officials, a large number of District Board members and many long-time District employees.

The meeting began with an Invocation delivered by Rev. William S. Meyer, D.D., Pastor of the Immanuel Presbyterian Church of Los Angeles. Following luncheon, Walter H. Cates, President of the Los Angeles Section of the Society and Chairman of the Day, called the meeting to order and introduced Samuel B. Morris, who served as Master of Ceremonies.

Mr. Morris is a Regional Vice President of the Society and a Consulting Engineer for the Los Angeles Depart-

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District Sets New Rates For Colorado River Water

The Board of Directors of the Metropolitan Water District at its April 8 meeting established rates at which the District will sell Colorado River water to its member cities and areas during the coming fiscal year beginning July 1, 1958.

The action of the Board included approval of four rates for different classes of water and water use as compared with two rates now in effect, according to Board Chairman Joseph Jensen.

Natural unsoftened Colorado River water to be used for agricultural purposes or for underground replenishment will remain at the present rate of \$12

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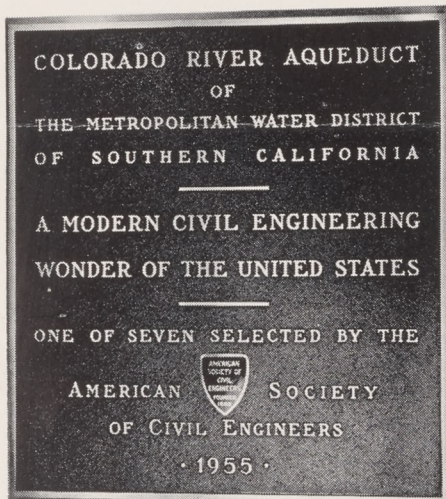
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THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

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A photograph of the bronze plaque presented to the District by the American Society of Civil Engineers.

Engineering Wonder

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ment of Water and Power. He was one of those present when the Metropolitan Water District was first organized at the Huntington Hotel in 1929. In his remarks, Mr. Morris recalled the early days of water development in Southern California and the men who played important roles in historic events which led to the formation of the District and the ultimate construction of the Aqueduct.

Society President Howson told the meeting that the Colorado River Aqueduct was selected as one of the "Engineering Wonders" primarily for its contribution to human welfare.

"The great Aqueduct made possible the continued growth of a most active and vitally important area of our country. Without it, the Southern California area would be water starved," Mr. Howson declared.

"But with it, the Metropolitan Water District today can serve nearly one-half the entire population of California in 33 cities and five counties in Southern California," Mr. Howson said.

In acknowledging receipt of the pla-

Water Rates Set

(Continued from Page One)

per acre-foot. The rate for natural water for other uses, including domestic and municipal, was set at \$15 per acre-foot, an increase of \$3.

Softened and filtered Colorado River water to be used for agricultural purposes or for the replenishment of underground basins will stay at the present rate of \$22 per acre-foot. For other uses, including domestic and municipal, the rate is increased to \$25 per acre-foot.

In announcing the new rates, Chairman Jensen stated that this is only the second rate increase for Colorado River water since 1950.

Mr. Jensen pointed out that the Metropolitan Water District delivers Colorado River water wholesale to its member cities and areas which, in turn, retail the water to individual consumers.

The rate increase for domestic and municipal use of Colorado River water amounts to only one cent per 1,000 gallons. If this slight increase is passed along to the individual consumer it would mean that the water bill for an average family of four would go up about 20 cents per month, Mr. Jensen said.

Correction

In the March, 1958 issue of the Aqueduct News, due to a typographical error, it was reported in the "For the RECORD" column that the usable storage in Lake Mead had decreased to 13,712,000 acre-feet on February 28, 1958.

The figure, as correctly shown in the General Manager's monthly report of District operations for February, was 19,712,000 acre-feet.

que award, Board Chairman Joseph Jensen paid high tribute to the men responsible for the engineering and construction work on the Aqueduct and praised General Manager and Chief Engineer Diemer as the District officer who has been identified with the planning and building of the Aqueduct from the time the tremendous job was assumed by the District.

"The Colorado River Aqueduct is being honored today because it stands among the foremost civil engineering wonders of our time. The way was opened for this great engineering achievement when men and women of good will in detached, independent communities in Southern California recognized that they had a common need—the need for water—and that their individual needs

(Continued on Page Three)

For the RECORD

(The following items are noted from the report of General Manager and Chief Engineer Robert B. Diemer, filed April, 1958 covering District operations for March, 1958.)

Colorado River—The water surface of Lake Mead dropped 5.02 feet to elevation 1163.54 above sea level during March, and usable storage decreased 620,000 acre-feet to 19,092,000 on March 31. The discharge at Hoover Dam during the month averaged 23,300 cubic feet per second, as compared with 15,210 cfs in February. Discharge at Parker Dam averaged 21,200 cfs.

Pumping and Power—Hayfield pumping plant delivered 49,798 acre-feet of water in March. Pumping was on a 4-pump basis until March 18, continuing on a 5-pump basis until March 28, when operation was reduced to a 4-pump schedule for 24 hours and to a 3-pump basis for the balance of the month. The district power system was out of parallel with Edison, Parker-Davis and Hoover for 9, 5, and 2 minutes respectively. District's share of Parker energy was 37,201,504 kwhrs. Peak delivery to and from Edison Company was 110,000 kw and 25,000 kw. Edison interchange energy delivered to the District was 936,000 kwhrs.

Weymouth Softening and Filtration Plant—Colorado River water was softened from 354 to 125 ppm of hardness at an average rate of 172 cfs during March. Daily rate of flow varied from a maximum of 193 cfs to a minimum of 145 cfs. A total of 10,405 acre-feet of water was treated in March.

Construction—Construction work on the distribution system progressed as follows: Schedule 59A-P (Middle Feeder) work on the contract was accepted as complete on March 5, 1958; Schedule 62P (Culver City Lateral) the work is 66% complete; Schedules 63P and 64P (Culver City Lateral) work is 86% and 95% complete respectively; Schedules 76SC, 77SC and 78SC (Lower Feeder) work is 13%, 2%, and 0% complete, respectively.

Pumping Plant Expansion—On installation of Pumping Unit 6 the contract is 95% complete. The contract on Pump Delivery Line No. 3 is 48% complete.

Siphon work on main aqueduct — Earp to Whitewater—Contracts 669 and 672, work is 43% complete.

Purchasing—Total expenditures covered by 401 purchase orders and 4 agreements were \$127,242.



District Board Chairman Joseph Jensen acknowledged receipt of the plaque presented to the District by the American Society of Civil Engineers at a luncheon on April 15.



General Manager and Chief Engineer Robert B. Diemer, on behalf of the District, accepted the plaque naming the Colorado River Aqueduct one of the "Seven Civil Engineering Wonders of the United States."

Engineering Wonder

(Continued from Page Two)

could best be satisfied by joining hands in a common effort—with faith and trust in each other. The great Colorado River Aqueduct is shining proof that wondrous works can be wrought when men and women of good will join their hands and their hearts in a common cause," Mr. Jensen declared.

District General Manager and Chief Engineer Diemer, who received the plaque on behalf of the District, pointed out that more than 6,500,000 people now live in the area served by the Aqueduct. He stated that the District is now engaged in a \$200 million program of aqueduct expansion work bringing it to its full delivery capacity of 1,212,000 acre-feet annually.

"This expansion program is scheduled

to be completed in 1960 and will give the aqueduct the capacity to meet the needs of 3,500,000 to 4,000,000 more people than we now have living in the service area of the Metropolitan Water District," Mr. Diemer said.

"We believe that in our Metropolitan Water District experience of aqueduct planning, building and financing, we have learned many basic lessons that will serve us all well in the years ahead—and will help us solve many of our future problems that are involved in keeping this area provided with an adequate water supply," Mr. Diemer concluded.

The other six "Engineering Wonders" selected by the Society are the Panama Canal, Hoover Dam, Grand Coulee Dam, the Sanitary District of Greater Chicago, the San Francisco-Oakland Bay Bridge and the Empire State Building.

water projects.

Passage of the budget climaxed weeks of debate during which the northern legislators held out for funds to start construction work on various Northern California water projects. The Metropolitan Water District, while opposing appropriations for actual project construction, did support appropriations for removal of the railroads and highways from the Oroville damsite, and for completing the purchase of lands for the Oroville Dam and the San Luis Reservoir.

Southern California legislators took the position that no actual project construction funds should be appropriated until a constitutional amendment guaranteeing the south a firm supply of water was submitted to the people.

District Lauded By Assembly Resolution

The California State Assembly on April 22 unanimously adopted a resolution commending the Metropolitan Water District of Southern California and its officials upon being honored by the American Society of Civil Engineers who declared the Colorado River Aqueduct one of the "Seven Engineering Wonders of the United States."

Presented by Assemblyman Frank Lanterman of La Canada, the commendatory resolution bore the names of most of the Southern California Assemblymen as co-authors. Mr. Lanterman in his remarks pointed to the remarkable achievement of the Metropolitan Water District in bringing Colorado River water 242 miles across the desert to the coastal plain. He noted that the award of the American Society of Civil Engineers was given to the District officials by Louis R. Howson, National President of the Society. The Assembly resolution declared in part as follows:

"Whereas, in making this award to the Metropolitan Water District of Southern California the National President of the American Society of Civil Engineers stated that the aqueduct has been chosen not only for its size but 'primarily for its contribution to human welfare'; and

"Whereas, the Colorado River Aqueduct travels 242 miles of wasteland from the Colorado River to the Lake Mathews terminal reservoir and will have the ultimate capacity of more than one billion gallons of water daily; and

"Whereas, in the award ceremonies particular tributes were paid by Mr. Joseph Jensen, Chairman of the Board of Directors of the Metropolitan Water District of Southern California, and Mr. Robert B. Diemer, General Manager and Chief Engineer of the District, to William Mulholland, who conceived the Colorado River Aqueduct, Frank E. Weymouth, who constructed the aqueduct, Julian Hinds, who first operated the aqueduct, and to two original directors of the Metropolitan Water District of Southern California, William P. Whitsett and the late Franklin Thomas; now, therefore, be it

"Resolved by the Assembly of the State of California, That the members of this Assembly hereby congratulate the Metropolitan Water District of Southern California upon the receipt of the signal honor of having the Colorado River Aqueduct designated by the American Society of Civil Engineers as one of the 'Seven Engineering Wonders of the United States'."

State Budget Eliminates Most Water Project Funds

The California State Legislature on April 23 approved a \$1,999,817.072 state budget devoid of water project funds except for \$14,168,138 to enable the State Water Resources Department to conduct its regular operations. The Legislature also appropriated \$10,000,000 for flood control, \$15,000,000 for flood damage repair and \$1,000,000 for flood emergencies.

No money was appropriated for construction work on the Feather River Project or for the purchase of land for the proposed San Luis Reservoir in Central California. Governor Goodwin J. Knight had requested \$72,000,000 for

General Manager Diemer Addresses Water Meeting

District General Manager and Chief Engineer Robert B. Diemer was one of the featured speakers at the 1958 Annual Convention of the American Water Works Association in Dallas, Texas. On April 22, Mr. Diemer delivered a paper entitled "Operating Southern California's Colorado River Aqueduct System."

Following are excerpts from Mr. Diemer's address:

"Southern California is a section of the earth where more people have come to live, work and play, in a region farther removed from adequate water supplies than has been true in any other part of the earth at any time in recorded history. More than fifty years ago, Southern California began to change from a grazing and agricultural area to a horticultural territory with growing urban centers. In order to meet this change it became increasingly evident that water supplies would have to be imported from distant sources.

"The longest, and largest domestic water supply line thus far planned, constructed and placed successfully in operation is the Colorado River Aqueduct of The Metropolitan Water District of Southern California. It was completed in its initial development in 1941 using \$180,000,000 from the proceeds of a \$220,000,000 bond issue authorized by the voters of the District in 1931. It will have an ultimate capacity of 1,212,000 acre-feet annually.

"In September of 1931, a bond issue of \$220,000,000 was approved by the voters by a decisive ratio of nearly 5 to 1—to furnish funds to build an aqueduct from the Colorado River to Southern California. Actual construction work on the aqueduct was started in December, 1932, and the aqueduct was put in operation in June, 1941. The aqueduct extends 242 miles across a desert waste of mountains and deep canyons from the Colorado River to Lake Mathews, its terminal reservoir with a capacity of 107,000 acre-feet.

"Most aqueduct features were constructed to the ultimate capacity of 1605 cubic feet per second required to deliver 1,212,000 acre-feet annually from the Colorado River. Some features, because of economic reasons and estimated future requirements, were constructed to partial capacity, limiting the original capacity of the aqueduct to about 425,000 acre-feet per year. The main aqueduct system initially had 5 pumping stations, each with capacity to lift 600 cfs of water 1617 feet over the mountainous wastes; 92 miles of 16'0" diameter con-



A number of District board members this month made an inspection tour of the aqueduct system to view the progress of the \$200 million expansion program now being carried forward by the District. Here some of the party are shown in front of the "Pipemobile" which is used to move huge pipe sections into place on the job of installing the second barrel of siphons on the main aqueduct. Left to right are Directors Paul L. Burkhard, Nelson Hayward, Lynndon L. Aufdenkamp, Victor H. York, Floyd E. Fischer, Howard Boylan, A. C. Reynolds, Milo Dellmann and W. C. Farquhar.

crete-lined tunnels; 63 miles of concrete-lined canals; 55 miles of 16'0" diameter covered concrete conduits; 29 miles of inverted siphons; 22 miles of inverted siphons with 805 cfs capacity. The remainder of the siphons, tunnels, canals and cover conduit were built for the full capacity of 1605 cubic feet per second.

"A distribution system of large diameter pipe lines totaling more than 350 miles has been built to deliver the water from the aqueduct into San Diego County, and from Lake Mathews, the terminal reservoir, into the other four Southern California counties—San Bernardino, Riverside, Orange and Los Angeles—which comprise the District. The aqueduct system also includes 9 reservoirs with a total usable capacity of 154,000 acre-feet, and 237 miles of high voltage power lines from Hoover Dam to the aqueduct pumping plants.

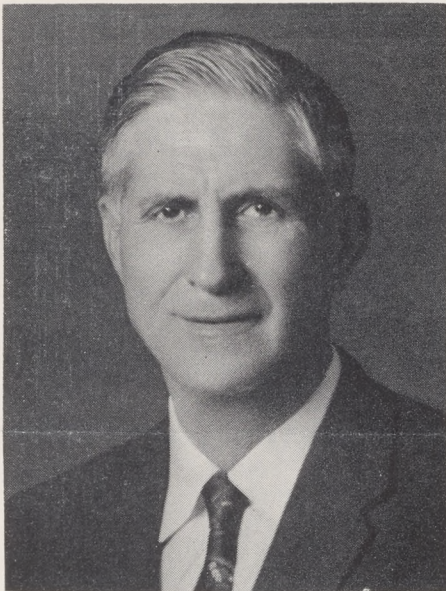
"With the completion of the aqueduct in its first development and the beginning of operation in June, 1941, the District was ready to supply the water needs of Southern California. Thirteen years had passed since the formation of the District in 1928. The District then

included only 624 square miles. Adjacent areas had little interest in obtaining additional water supplies from the Colorado River.

"During the past 10 years Southern California has experienced an amazing increase in population and industrial growth, and a subnormal rainfall for ten years of the past thirteen years. This population increase and the extended drought started mass annexation to the District in 1946. The District now has a total area exceeding 3000 square miles including 83 incorporated cities, a population of 6,500,000 and an assessed valuation of more than \$11,000,000,000.

"To meet the great and growing need for Colorado River water a major expansion program calling for more than \$200,000,000 was started in 1952 and will be completed in 1960. This means that when the aqueduct has been brought to full capacity it will represent a capital investment of about \$500,000,000, and most of the construction work was done with 1930 and 1940 dollars. If the entire aqueduct were built today it would cost more than \$1,000,000,000."

NEWS FROM FIELD AND OFFICE



Robert A. Skinner—25 Years of Service.

Robert A. Skinner became eligible for his 25-year service pin on March 6, 1958, having been first employed by the District on March 6, 1933, as an Assistant Engineer in the Distribution Section.

Mr. Skinner received his engineering education at Cornell University, U. S. Naval Academy, and U.S.C., and served in the U. S. Navy during the first world war. For many years he has been an active member of both the American Society of Civil Engineers and the American Water Works Association.

During his first eight years of employment with the District, Mr. Skinner performed responsible work in connection with the design, preparation of specifications, and related activities on the construction of the Distribution system. In 1941 he became Office Engineer, a position he held until January 1952 when he was appointed Assistant Chief Engineer.

Since 1952, in addition to general routine matters pertaining to operation and maintenance problems, his main responsibility has been the immediate supervision of the design and office work involved in the major portion of the District's \$200,000,000 expansion program. He also performs the duties of the General Manager and Chief Engineer during Mr. Diemer's absence.

Fernand "Frenchy" Landemaine, Junior Inspector, and his wife, Loretta, proudly announced the arrival of Glenda Denise on March 24. The baby girl weighed 8 pounds, 8 ounces at birth.

Phil Wood, Pumping Plant Operator at Hayfield Pumping Plant and his wife, Ruby, are conducting square dance lessons in the Recreation Hall there and a number of the pupils are becoming quite adept at the intricate steps.

Members of the District baseball team are grateful to fellow employees who participated in the recent "Name the Team" contest and other contests which were held to help outfit the team. The team has been named the M. W. D. "Ducts." District employees now on the roster include Don Howe, Ed Slaven, Keith Goodwin, Ray Hurd, Charles Copeland, Matt Ballinger, Daryl Hedrick, Dave Creighton, Frank Dennis, Pat Thomas, Harold Sundberg and Phil Osborne. Other team members may be added later.

Steve Sappington, former District employee, passed away suddenly of a heart attack on April 28. Steve left the District last November after more than five years of service. He was an Assistant Engineer. He is survived by his wife, Jane, and three daughters, Joyce, Penelope and Ellen.

The Community Chest has presented the District with a bronze plaque in recognition of the contributions made by District employees to the Chest. The plaque, which bears the inscription "Community Chest Award for Outstanding Citizenship" is only given to organizations contributing one-fourth of one percent of the annual payroll or more.

Berton Brehaut, Zeolite Operator at the Softening Plant, and his wife, Mary, have a new baby son who arrived at Pomona Valley Hospital on March 29. Named Burton Lloyd, the young man weighed 7 pounds, 1 ounce when born.

Joe Holliday, Associate Engineer in the Los Angeles office, underwent surgery at the Kaiser Harbor Hospital on April 29. Latest reports indicate that he is recovering satisfactorily.

Charles Jensen, Utility Man at the Softening Plant, and his wife, Karen, also patronized the Pomona Valley Hospital when a son was born to them on April 13. The new arrival weighed 6 pounds, 8 ounces and has been named William Cristian.



This healthy group of youngsters are just a few of the "small fry" who are growing up on the Aqueduct. A district photographer, on a recent visit to Gene Village, took this picture. Left to right are Rebecca and Sharon Brown, Cory Whaley and Tommy Brown. They are the children of Mr. and Mrs. K. A. Brown and Mr. and Mrs. Bob Whaley.

NEWS FROM FIELD AND OFFICE



Rufus S. Fee—25 Years of Service.

Rufus S. Fee became eligible for his 25-year service pin on April 21, 1958, having first been employed by the District as Chauffeur at the Los Angeles garage on April 21, 1933. In April, 1942, he was appointed Field Secretary reporting to the Executive Secretary of the Board of Directors, the position he held until the following August when he took Military Leave for service in the U. S. Navy. He returned to the District in his former capacity in November, 1945, and started reporting to the General Manager and Chief Engineer's office in 1948. Last June he was elevated to Public Relations Representative.

Rufus' activities in connection with efficiently conducting tours over the aqueduct system are well known. In addition to these duties he performs other public relations work in giving talks and showing District pictures before civic and other groups, and in connection with legislative activities concerning the District at Sacramento.

* * *

Cyriald J. Martin, Jr., Utility Clerk, and his wife Helen, became parents for the second time when a baby girl arrived at Glendale Hospital on April 22. She weighed 5 pounds 13½ ounces and has been named Joni Ann.

* * *

William Hawkins, Filter Operator at the Softening Plant, and Mary Anna Kunzman were married on April 17. The happy couple exchanged vows at the Wee Kirk o' the Heather Chapel in Las Vegas.



John L. Powell—25 Years of Service.

John L. Powell became eligible for his 25-year service pin on March 15, 1958, having been first employed by the District on the installation of the District's construction water system on March 15, 1933. Following the completion of the system, John continued on the operation and maintenance of these temporary works during the main aqueduct construction period, and later worked as a Patrolman on the operation of the main aqueduct proper until 1940 when he transferred to the softening plant as a Maintenance Mechanic, becoming a Mechanical Foreman in 1952.

In his present capacity he supervises much of the maintenance and repair work on the mechanical equipment and appurtenant works at the softening plant.

Since receiving his 25-year pin, Johnny has suffered a cerebral hemorrhage and is now undergoing treatment at the Pomona Valley Hospital. At the last report, he was feeling better and some of the paralysis which had affected him was beginning to leave.

* * *

A new form of dancing, termed Round Dancing, is gaining popularity at Gene Village. Closely related to Square Dancing, the new dance consists of pattern and exhibition dancing as opposed to ballroom dancing. Mr. and Mrs. Oren Konkell, popular residents of the area, are conducting lessons every Monday night. They are assisted by Jackie Zans, wife of Security Officer Dan Zans.



Harold R. Church—25 Years of Service.

Harold R. Church became eligible for his 25-year service pin on April 3, 1958, having been first employed by the District as Rodman on distribution system surveys on April 3, 1933.

In 1941 Harold was transferred to the softening plant as an attendant. The following year he returned to construction work as Instrumentman and Inspector on the construction of the extension of the Orange County feeder. On completion of this work he worked as Maintenance Man and Patrolman on the lower portion of the Orange County feeder.

When the District started its expansion program in 1952, Harold returned to the construction work as Chief of Party on surveys for the installation of pipe lines. His present work is on the construction of the Culver City Lateral. He is one of the District's most experienced and efficient surveyors.

* * *

Several Square Dances have been held at the Recreation Hall at Iron Mountain recently. On March 31 a group of people from the Kaiser Mine and from Eagle Mountain came to join in the fun and on April 14 Gene Village residents drove over to participate in more of the same.

* * *

Mary and Thomas Patterson paid a visit to the Pomona Valley Hospital on April 11 and came away with a bouncing baby boy. He weighed 8 pounds, 9 ounces and has been named Mark David.